Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claim 1. (Currently Amended) A method for isolation of a target comprising the steps of:

dispersing one or more probe beads comprising ~~an S-ODN library or an S_2-ODN library~~ a thioaptamer library selected from a thioaptamers (S-ODN) or a dithioaptamers (S_2-ODN) in a thixotropic agent, wherein the ~~one or more probe beads comprising one or more thioaptamers comprise one or more but less than all of the linkages~~ a thioaptamers (S-ODN) or a dithioaptamers (S_2-ODN) selected from the group rATP(αS_2), rUTP(αS_2), rGTP(αS_2), rCTP(αS_2), rATP(αS), dTTP(αS), dGTP(αS), dCTP(αS), dATP(αS_2), dTTP(αS_2), dGTP(αS_2) and dCTP(αS_2);

scanning for probe beads that generate a detectable signal from interaction between the one or more probe beads and the target; and

picking one or more probe beads based on the detectable signal.

extracting the target from the probe bead; and

identifying the target by mass spectrometry after liquid chromatography.

Claim 2-3 Cancelled

Claim 4. (Original) The method of claim 1, further comprising the step of identifying the target using mass spectrometry comprises matrix assisted laser desorption ionization mass spectrometry.

Claim 5-6 Cancelled

Claim 7. (Original) The method of claim 1, wherein each of the probe beads are further modified to comprise a colorimetric agent.

Claim 8. (Original) The method of claim 1, wherein each of the probe beads further comprise one or more bases that are attached to a fluorophor.

Claim 9. (Currently Amended) The method of claim 1, wherein each of the probe beads further comprises one or more fluorophors attached to the 5' end, the 3' end or internally within the ~~aptamers~~ thioaptamers (S-ODN) or the dithioaptamers (S_2-ODN).

Claim 10-12 Cancelled

Claim 13. (previously presented) The method of claim 1, wherein the target is labeled with a fluorescent agent.

Claim 14-15 Cancelled

Claim 16. (Original) The method of claim 1, wherein the probe bead is acquired by a scanning robotic head and the target is extracted from the probe bead in situ.

Claim 17. (Original) The method of claim 1, probe bead is acquired by a scanning robotic head and the target is extracted from the probe bead in situ by proteolysis and transferred to the inlet of an LC-MS or an LC-MS/MS.

Claim 18. (Previously presented) The method of claim 1, wherein the probe bead is acquired by a scanning robotic head and the target is extracted from the probe bead in situ for MALDI-MS analysis, wherein the MALDI-MS analysis is MALDI-TOF/MS.

Claim 19. (Original) The method of claim 1, wherein the probe bead is acquired by a scanning robotic head and the target is extracted from the probe bead in situ for LC-MS analysis.

Claim 20. (Original) The method of claim 1, wherein the probe bead is acquired by a scanning robotic head and the target is extracted from the probe bead in situ for MALDI-MS analysis.

Claim 21. (Original) The method of claim 1, wherein the probe bead is acquired by a scanning robotic head and the target is extracted from the probe bead in situ for MALDI-MS analysis by SELDI ionization.

Claim 22-23 Cancelled

Claim 24. (Original) The method of claim 1, wherein the probe bead is further processed to remove the target bound to the aptamer bead and analyzing the target by binding a second detectable label to the target.

Claim 25. (Previously presented) The method of claim 1, wherein the thixotrophic agent comprises a polyacrylamide gel.

Claim 26. (Previously presented) The method of claim 1, wherein picking the one or more probes beads is semi-manually.

Claim 27. (Currently amended) The method of claim 1, wherein the target is <u>one or more</u> proteins.

Claim 28. (Original) The method of claim 1, wherein the one or more probe beads

are dispersed within the thixotropic agent by molecular printing.

Claim 29. (Previously presented) The method of claim 1, wherein the one or more probe beads are dispersed within the thixotropic agent using an ink-jet printer.

Claim 30-81. Cancelled